

Name \_\_\_\_\_

# Dividing Multiples of 10 and 100

Reteaching  
4-1

You can use math facts and patterns to help you divide mentally.

What is  $480 \div 6$ ?

What is  $60,000 \div 6$ ?

You already know that  $48 \div 6 = 8$ .

$60 \div 6 = 10$

480 has one more zero than 48, so 60,000 has three more zeros than 60, so place three zeros in the quotient.

$$480 \div 6 = 80.$$

$$60,000 \div 6 = 10,000.$$

Find each quotient. Use mental math.

1.  $32 \div 8 =$  \_\_\_\_\_

2.  $320 \div 8 =$  \_\_\_\_\_

3.  $3,200 \div 8 =$  \_\_\_\_\_

5.  $56 \div 7 =$  \_\_\_\_\_

6.  $560 \div 7 =$  \_\_\_\_\_

7.  $5,600 \div 7 =$  \_\_\_\_\_

8.  $56,000 \div 7 =$  \_\_\_\_\_

9.  $15 \div 3 =$  \_\_\_\_\_

10.  $150 \div 3 =$  \_\_\_\_\_

11.  $1,500 \div 3 =$  \_\_\_\_\_

12.  $15,000 \div 3 =$  \_\_\_\_\_

13. **Writing To Explain** Explain how dividing 720 by 9 is like dividing 72 by 9.

Arlo has a newspaper delivery job. He wants to wrap each of his newspapers in a plastic bag to protect them from the rain. The newspapers are in bundles.

Use mental math to answer the following questions.

14. How many bags will he use for 5 bundles?

15. How many bags will he use for 7 bundles?

16. How many bags will he use for all 12 bundles?

<b>Arlo's Newspaper Delivery</b>	
Number of bundles	12
Number of newspapers per bundle	9

R4-1

# Dividing Multiples of 10 and 100

Use mental math to find each quotient.

1.  $27 \div 9 =$

2.  $270 \div 9 =$

3.  $2,700 \div 9 =$

4.  $24 \div 4 =$

5.  $240 \div 4 =$

6.  $2,400 \div 4 =$

7.  $720 \div 9 =$

8.  $140 \div 7 =$

9.  $2,100 \div 3 =$

10. If a bike race covers 120 mi over 6 days and the cyclists ride the same distance each day, how many miles does each cyclist ride each day?

Use mental math to answer the following questions.

11. If the vehicles are divided evenly between the sections, how many vehicles are in each section?

Dealership Vehicle Storage	
Sections of vehicles .....	4
Vehicles for sale .....	1,200
Rows per section .....	10

12. If the vehicles are divided evenly between the rows in each section, how many vehicles are in each row?

13. If  $160,000 \div n = 4$ , find  $n$ .

14. Find  $32,000 \div 8$  mentally.

15. Solve the equation  $n \times 50 = 5,000$ . Explain your solution.
- A 4,000      B 400      C 40      D 4

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# Estimating Quotients

4-2  
Reteaching

There are several ways to adjust whole numbers to estimate quotients.

Example:

There are 216 students. The school has 8 classrooms. How many students will be in each classroom?

Estimate  $216 \div 8$ .

## Rounding

You can use rounding to estimate

a quotient.

Round 216 to the nearest

hundred.

In this case, 216 rounds to 200.

$$200 \div 8 = 25$$

25 students per room is an

underestimate, because 216 was

rounded down to 200.

## Compatible Numbers

You can use compatible numbers

to estimate a quotient.

Change 216 to a compatible

number for 8.

Compatible numbers for 8 are

numbers divisible by 8, such

as 160, 240, and 320. Choose

240, because it is the closest

compatible number to 216.

$$240 \div 8 = 30$$

30 students per class is an

overestimate, because 216 was

rounded up to 240.

## Multiplication

You can use multiplication to

estimate a quotient.

Think: 8 times what number is

about 216?

$$8 \times 25 = 200$$

$$8 \times 30 = 240$$

216 is between 200 and 240. So

a good estimate is a little more

than 25 and a little less than

30 students per classroom.

Estimate each quotient. You may use any method.

1.  $411 \div 2$

2.  $162 \div 4$

3. **Estimation** If you estimate  $342 \div 7$  by using  $350 \div 7 = 50$ , is 50 greater than or less than the exact answer? How did you decide? Is 50 an overestimate or an underestimate?

Name \_\_\_\_\_

# Estimating Quotients

Practice  
4-2

Estimate each quotient. Tell which method you used.

1.  $195 \div 4$

\_\_\_\_\_

2.  $283 \div 5$

\_\_\_\_\_

3.  $766 \div 8$

\_\_\_\_\_

4.  $179 \div 2$

\_\_\_\_\_

5.  $\$395.20 \div 5$

\_\_\_\_\_

6.  $\$31.75 \div 8$

\_\_\_\_\_

7.  $\$247.80 \div 5$

\_\_\_\_\_

8. If you use  $\$63.00 \div 9$  to estimate  $\$62.59 \div 9$ , is  $\$7.00$  greater than or less than the exact answer? Explain.

9. A band played 3 concerts and earned a total of  $\$321.00$ . The band earned about the same amount for each concert. Estimate how much the band earned each night.

10. At a department store, a woman's total was  $\$284.00$  for 7 items. Estimate the average cost per item.

11. Which is the closest estimate for  $213 \div 4$ ?

- A 50
- B 40
- C 30
- D 20

12. Explain how to estimate  $524 \div 9$ .

# Problem Solving: Reasonableness

Name \_\_\_\_\_

Reteaching  
4-3

After you solve a problem, check to see if your answer is reasonable. Also check that you answered the right question.

Example:

74 students are going to a special class dinner where they will be seated 8 to a table. Will 9 tables be enough?

Reasonableness  
 $74 \div 8 = 9 \text{ R}2$

The answer is close to 9 tables.

Answering the right question

All students must have seats, so there must be one more table to hold the remaining 2 students, making 10 tables in all.

Tell whether each answer is reasonable.

1. Kendra wants to paste 500 photographs into an album, 6 photos to a page. She figures that she will need about 100 pages.

2. Hwong has 39 muffins. If each of his guests will eat 2 muffins, Hwong figures that he can serve muffins to 19 guests.

3. Ivan has a piece of lumber 104 inches long. He is sawing it into 12-inch lengths to make fence posts. He says he can get about 9 fence posts out of the board.

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## Problem Solving: Reasonableness

Solve.

1. One tray holds eight sandwiches. If there are 30 sandwiches in all, how many trays are needed?

2. There are 53 students on a field trip. One chaperone is needed for every 6 students. How many chaperones are needed?

Mrs. Favicchio has 72 students in her science class. The table shows how many students can use each item of lab supplies she is ordering.

3. How many packets of pH paper does she need to order?

4. How many cases of test tubes does she need to order?

Lab Supplies	
Item	Number of Students
Packet of pH paper	10
Case of test tubes	5
Case of petri dishes	4

5. A loaf of banana bread serves 6 guests. There will be 47 guests attending the faculty breakfast. Which expression shows how many loaves are needed to serve them all?

- A 47 divided by 6 is 7 R 5, so 7 loaves are needed.  
B 47 divided by 6 is 7 R 5, so 8 loaves are needed.  
C 47 plus 6 is 53, so 53 loaves are needed.  
D 47 minus 6 is 41, so 41 loaves are needed.

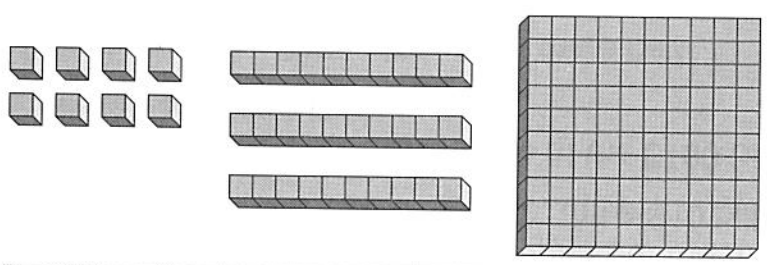
6. **Writing To Explain** You are in line at an amusement park. You count 34 people in front of you. Each rollercoaster fits 11 people. How many rollercoasters must run before you can get on? Explain.

Name \_\_\_\_\_

# Connecting Models and Symbols

4-4  
Reteaching

Divide 138 equally into 3 groups.



**Step 1:**

You can model 138 as 13 groups of 10 plus 8 ones.

Each group will get 4 groups of 10.

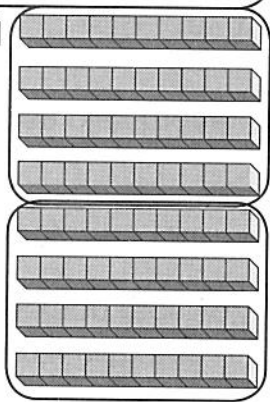
$40 \times 3 = 120$

$130 - 120 = 10$ , so there is 1 group of 10 left.

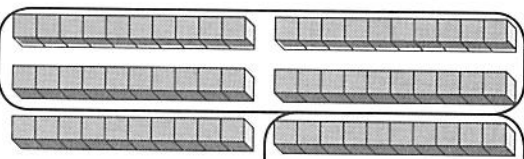
**Step 2:**

There is 1 group of 10 plus 1 group of 8 ones left. You can model 18 as 18 ones.  $18 \div 3 = 6$ , so each group will also get 6 ones. There is nothing left.

What You Think



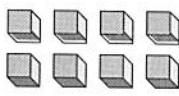
What You Think



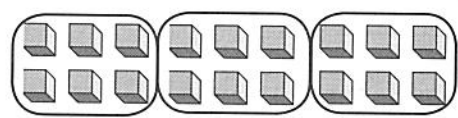
What You Write

$$\begin{array}{r} 4 \\ 3 \overline{) 138} \\ \underline{-12} \phantom{0} \\ 18 \\ \underline{-18} \\ 0 \end{array}$$

What You Write



What You Think



What You Write

$$\begin{array}{r} 46 \\ 3 \overline{) 138} \\ \underline{-12} \phantom{0} \\ 18 \\ \underline{-18} \\ 0 \end{array}$$

Use models to help you divide.

1.  $4 \overline{) 76}$

2.  $2 \overline{) 94}$

3.  $5 \overline{) 130}$

4.  $7 \overline{) 238}$

5.  $6 \overline{) 426}$

6.  $3 \overline{) 264}$

7. If  $n \div 3 = 57$ , what is the value of  $n$ ?

R4.4

# Connecting Models and Symbols

Name \_\_\_\_\_

Practice  
4-4

After mowing lawns for one week, John put the money he earned on the table. There were four \$100 bills, three \$10 bills, and five \$1 bills. 1. If John's brother borrowed one of the \$100 bills and replaced it with ten \$10 bills,

- a. how many \$100 bills would there be? \_\_\_\_\_
- b. how many \$10 bills would there be? \_\_\_\_\_

- 2. If John needed to divide the money evenly with two other workers, how much would each person receive? \_\_\_\_\_
- 3. If John needed to divide the money evenly with four other workers, how much would each person receive? \_\_\_\_\_

Complete each division problem. You may use play money or draw diagrams to help.

4. 
$$\begin{array}{r} \square \square \\ 4 \overline{) 136} \\ \underline{4} \phantom{0} \\ 13 \\ \underline{12} \\ 16 \\ \underline{16} \\ 0 \end{array}$$

5. 
$$\begin{array}{r} \square \square \\ 3 \overline{) 162} \\ \underline{9} \phantom{0} \\ 72 \\ \underline{72} \\ 0 \end{array}$$

6. If \$644.00 is divided equally among 7 people, how much will each person receive?

$$\begin{array}{r} \square \square \square \square \\ 7 \overline{) 644.00} \\ \underline{49} \phantom{00} \\ 154 \phantom{00} \\ \underline{140} \phantom{00} \\ 140 \phantom{00} \\ \underline{140} \phantom{00} \\ 0000 \end{array}$$

- A \$82.00
- B \$92.00
- C \$93.00
- D \$103.00

7. **Writing To Explain** Write a story problem using two \$100 bills, nine \$10 bills, and seven \$1 bills.

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Name \_\_\_\_\_

# Dividing by 1-Digit Divisors

4-5  
Reteaching

Find  $362 \div 5$ .

**Step 1:** To decide where to place the first digit in the quotient, compare the first digit of the dividend with the divisor.  $3 < 5$ , so the first digit in the quotient will not go in the hundreds place. Now, compare the first two digits of the dividend with the divisor.  $36 > 5$ , so the first digit in the quotient will go in the tens place.

**Step 2:** Divide the tens. Use multiplication facts and compatible numbers. Think  $5 \times ? = 35$ .

$$\begin{array}{r} 7 \\ 5 \overline{)36} \\ \underline{-35} \\ 1 \end{array}$$

Write 7 in the tens place of the quotient. Multiply.  $5 \times 7 = 35$ . Subtract.  $36 - 35 = 1$ . Compare.  $1 < 5$ . Bring down the ones.

**Step 3:** Divide the ones. Use multiplication facts and compatible numbers. Think  $5 \times ? = 10$ .

$$\begin{array}{r} 72R2 \\ 5 \overline{)362} \\ \underline{-35} \downarrow \\ 12 \\ \underline{-10} \\ 2 \end{array}$$

Write 2 in the ones place of the quotient. Multiply.  $5 \times 2 = 10$ . Subtract.  $12 - 10 = 2$ . Compare.  $2 < 5$ . There are no more digits to bring down, so 2 is the remainder.

**Step 4:** Check by multiplying.  
 $5 \times 72 = 360$   
 $360 + 2 = 362$

Divide. Check by multiplying.

1.  $8 \overline{)955}$

2.  $7 \overline{)249}$

3.  $5 \overline{)365}$

4.  $8 \overline{)448}$

5.  $2 \overline{)499}$

6.  $6 \overline{)396}$

7. How can you tell before you divide 425 by 9 that the first digit of the quotient is in the tens place?

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## Problem Solving: Draw a Picture and Write an Equation

Draw a picture and write an equation. Then solve.

1. Tommy paid \$39 to fill up the gas tank in his car. If one gallon of gas costs \$3, how many gallons of gas did Tommy put in?

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2. To prepare for the brunch, Ivana needs to place 8 muffins in each basket. If she has 15 muffins, how many baskets will she need?

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3. Write a real-world problem that you can solve by writing an equation. The answer to the problem must be 6.

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4. The perimeter is the distance around an object. The perimeter of a square is 84 centimeters. What is the length of one side of the square?

- A 75 cm      B 42 cm      C 21 cm      D 14 cm

5. **Writing to Explain** A perfect score on a quiz is 100. Mrs. Frisoli gives students 1 point for putting their name on the paper. If there are only 9 questions on the quiz, how much is each question worth? Explain how you found your answer.

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